

Pedestrian Safety Initiative Update

Initiative Meeting #8
August 26th, 2011

CountyStat Principles

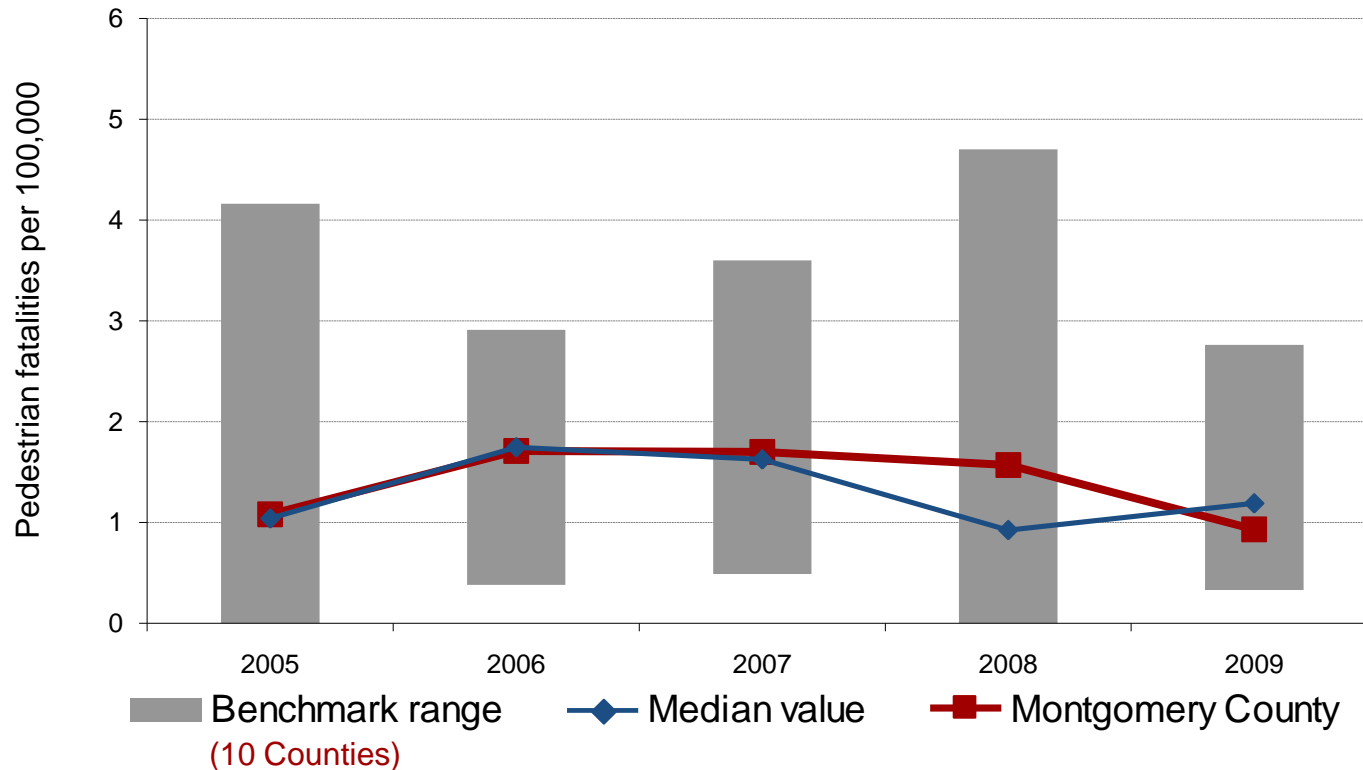
- **Require Data Driven Performance**
- **Promote Strategic Governance**
- **Increase Government Transparency**
- **Foster a Culture of Accountability**



Agenda

- **Introductions**
- **Overview of Countywide Pedestrian Collision Data**
 - Pedestrian Fatalities Indicator
 - Pedestrian Collisions
- **High Incidence Area Strategy Update**
 - Highlighted Improvements to Each High Incident Area
- **Safe Routes to School Strategy Update**
- **Traffic Calming Strategy Update**
- **Sidewalk and Bus Stop Improvement**
- **Other Programmatic Highlights**



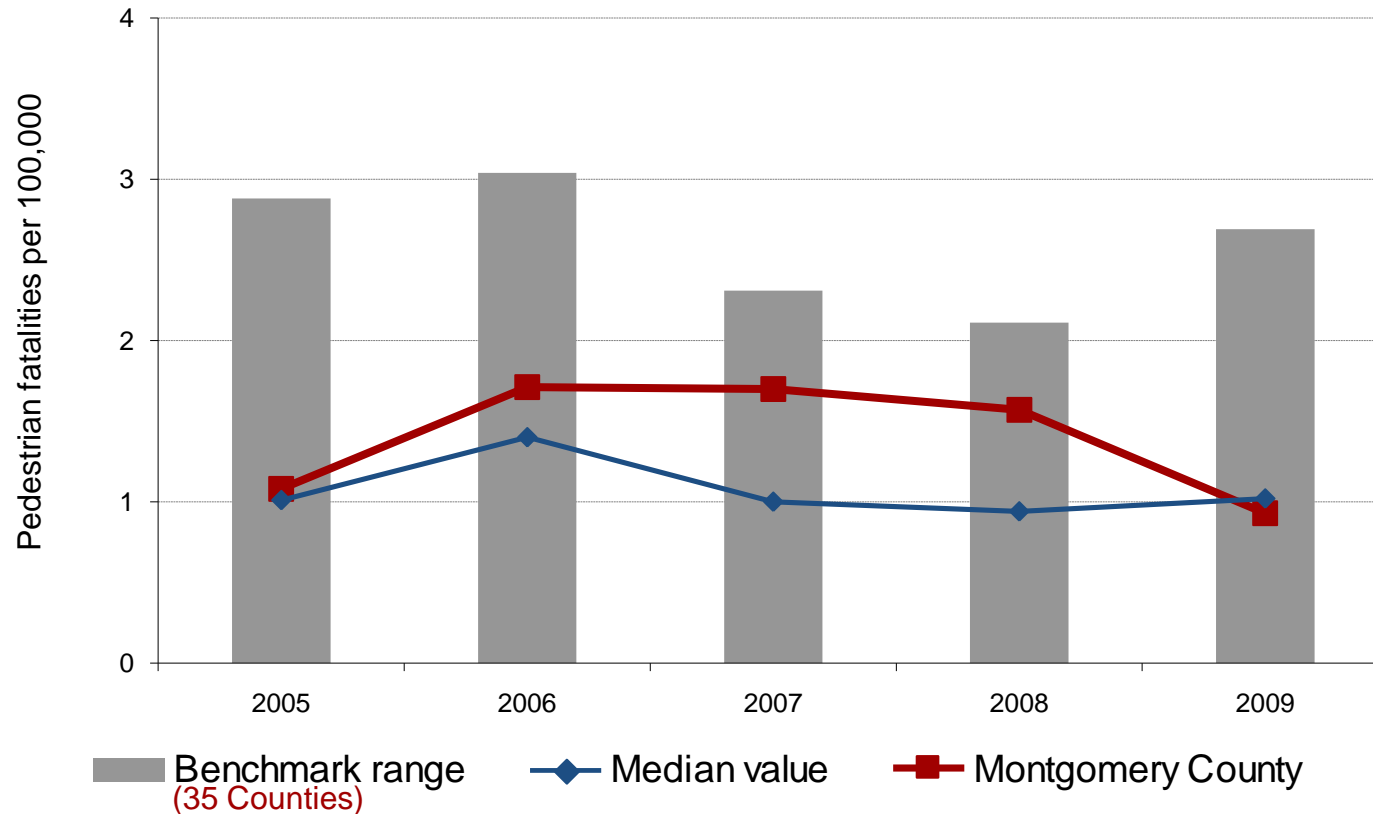
Safe Street and Secure Neighborhoods**Indicator: Pedestrian fatality rate per 100,000 population**

In 2009, the median pedestrian fatality rate was 1.19 fatalities per 100,000 people. Montgomery County's rate was .93.
In 2009, the highest value was 2.76 and the lowest value was 0.3.

Source: National Highway Traffic Safety Administration: Fatality Analysis Reporting System

Data may vary from local jurisdiction's reported figures



Safe Street and Secure Neighborhoods**Indicator: Pedestrian fatality rate per 100,000 population**

In 2009, the median pedestrian fatality rate was 1.02 fatalities per 100,000 people. Montgomery County's rate was .93.

In 2009, the highest value was 2.69 and the lowest value was 0.0.

Source: National Highway Traffic Safety Administration: Fatality Analysis Reporting System

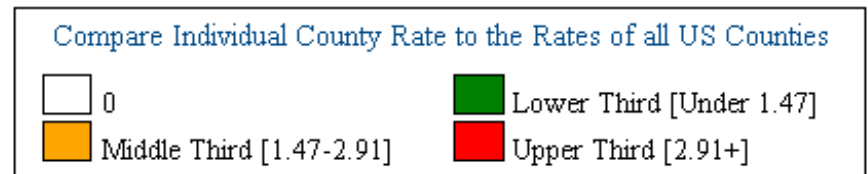
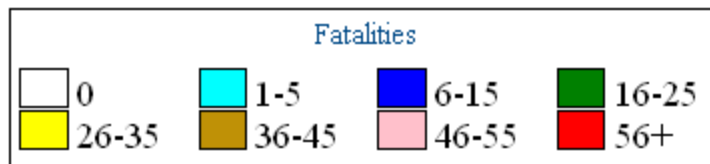
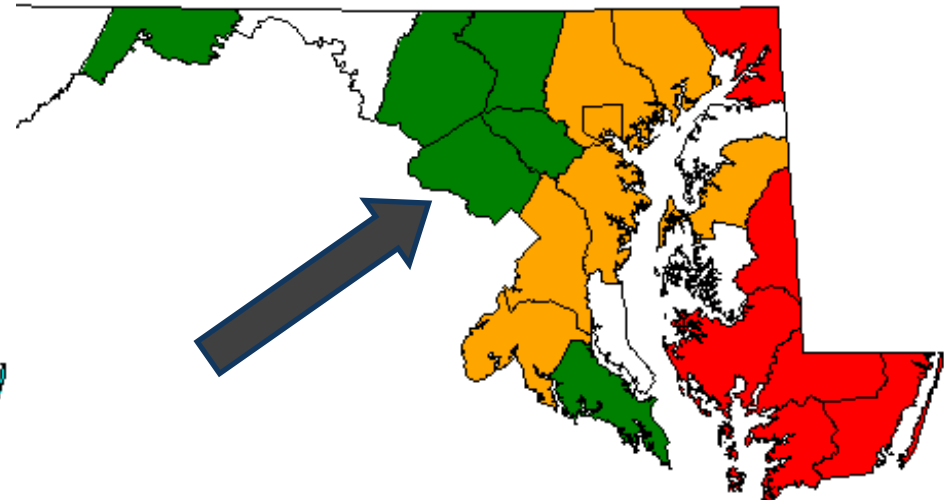
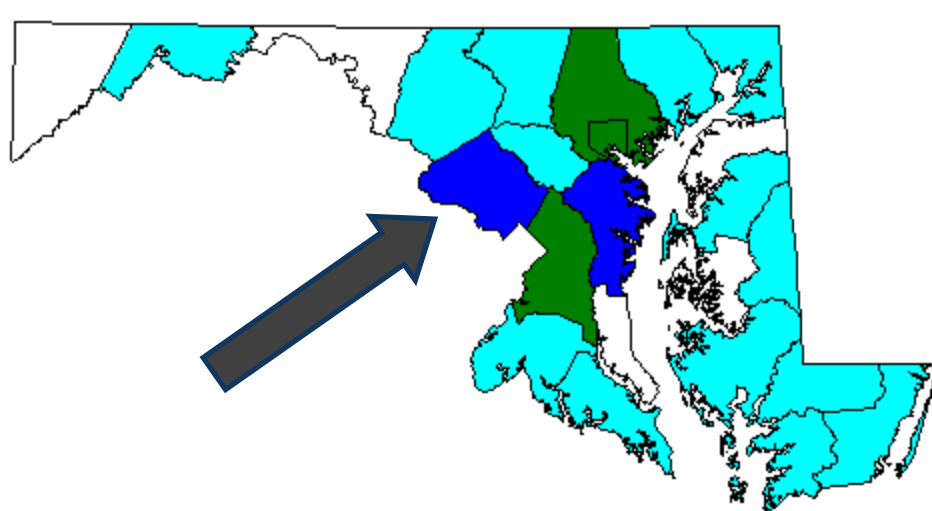
Data may vary from local jurisdiction's reported figures



2009 Pedestrian Fatalities Maryland Comparison

Pedestrian Fatalities

Pedestrian Fatalities per 100,000 (National Comparison)



Source: National Highway Traffic Safety Administration: Fatality Analysis Reporting System

Data may vary from local jurisdiction's reported figures

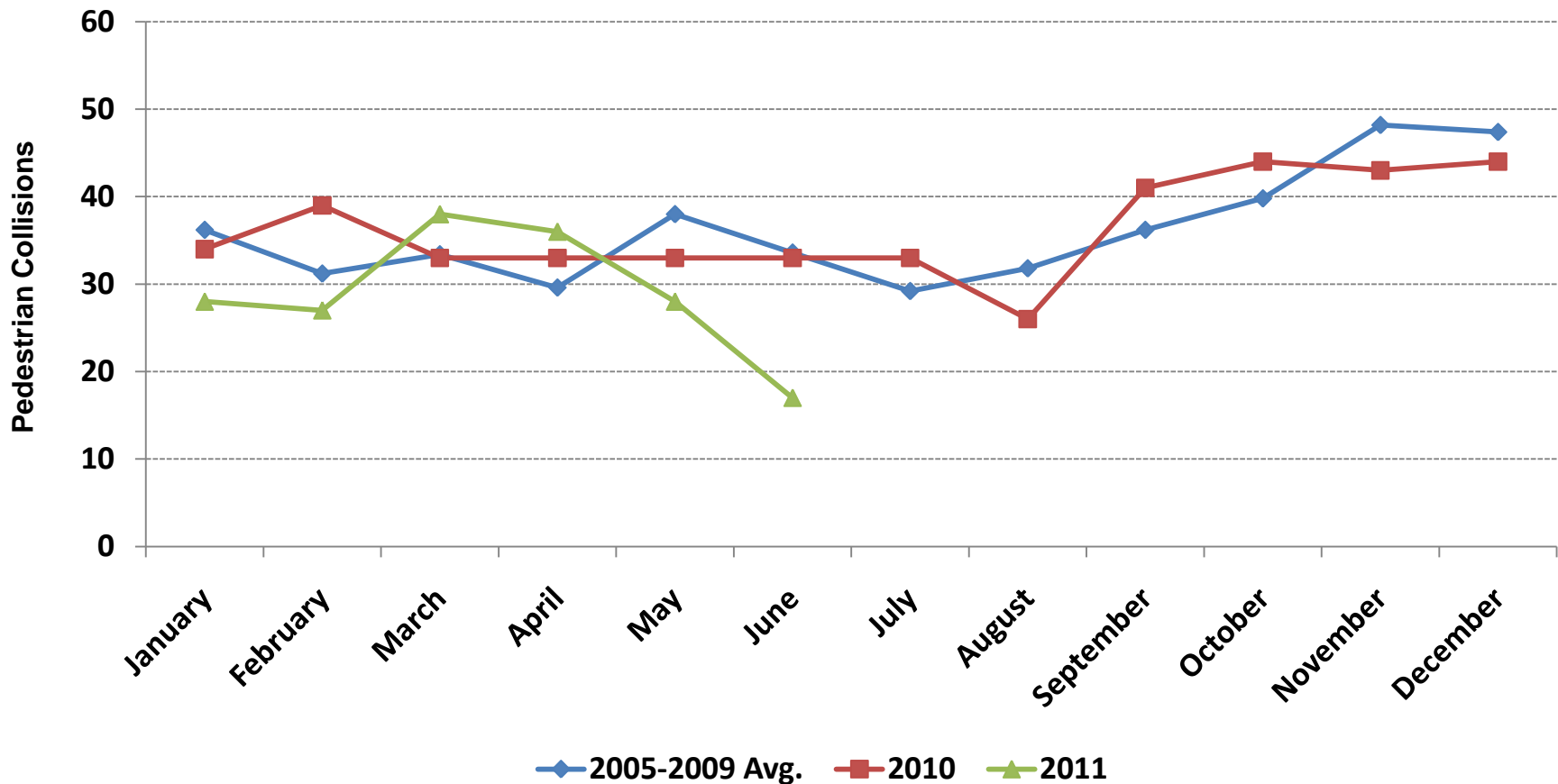


Montgomery County Pedestrian Collisions and Fatalities

	2005	2006	2007	2008	2009	2010	2011
January	36	31	32	48	34	34	28
February	28	28	33	30	37	39	27
March	37	28	34	37	31	33	38
April	26	25	35	34	28	33	36
May	27	36	34	47	46	33	28
June	41	33	29	24	41	33	17
Jan-Jun Subtotal	195	181	197	220	217	205	174
July	24	29	20	37	36	33	NA
August	28	37	26	36	32	26	
September	39	39	38	35	30	41	
October	48	42	37	31	41	44	
November	48	49	60	38	46	43	
December	52	52	34	47	52	44	
Total Collisions	434	429	412	444	454	436	174
Per 100,000	46.7	45.9	43.8	46.6	46.8	44.9	NA
% Level 4 & 5 (serious injuries)	30.0%	32.6%	29.4%	25.5%	28.8%	25.8%	23.6%
Total Fatalities	10	18	17	19	14	13	4
Per 100,000	1.1	1.9	1.8	2.0	1.4	1.3	NA

Source: Population estimates based on US Census data

Montgomery County Pedestrian Collisions

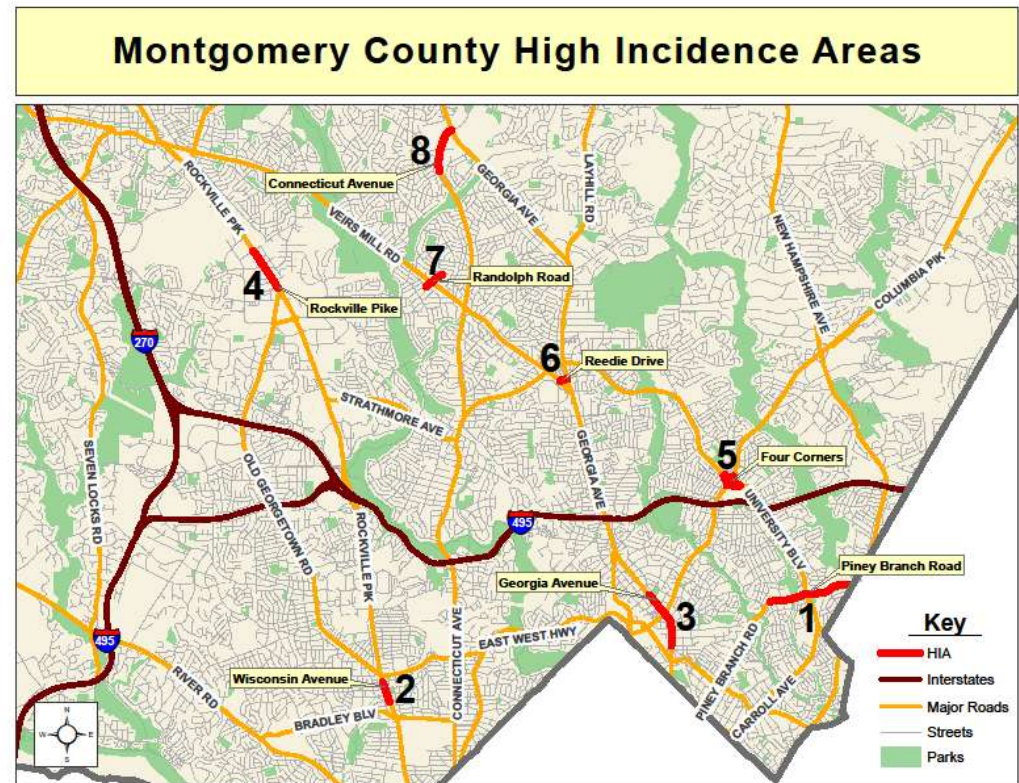


Pedestrian collision data demonstrated similar trends in the fall months in 2010 in comparison to the 2005-2009 average



High Incidence Areas Strategy Overview

- Targets funding for engineering, education, and enforcement (the 3 Es) where it can have the greatest effect on reducing pedestrian collisions
- The highest rate of pedestrian collisions is along State roads, so this strategy engages the State in targeting pedestrian safety activities within the County where the rate of collisions and severity are highest
- Creates opportunities to leverage multiple projects in target areas with cost-sharing between multiple agencies



- | | |
|--------------------|--------------------|
| 1. Piney Branch Rd | 5. Four Corners |
| 2. Wisconsin Ave | 6. Reddie Dr |
| 3. Georgia Ave | 7. Randolph Rd |
| 4. Rockville Pike | 8. Connecticut Ave |



Collisions in High Incidence Areas

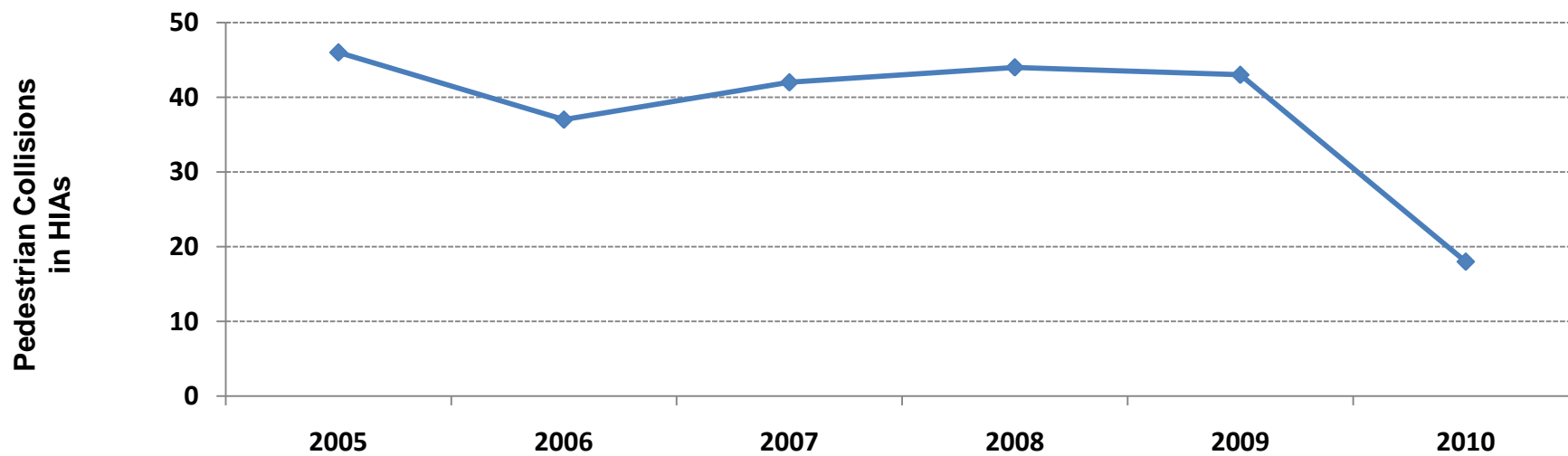
High Incidence Area	Date of PRSA Audit	Number of Pedestrian Collisions						
		2005	2006	2007	2008	2009	2010	TOTAL
Piney Branch	Oct 2008	10	10	8	7	8	3	46
Wisconsin Ave	Dec 2008	6	6	10	3	4	3	32
Georgia Ave	Mar 2009	4	7	5	7	10	4	37
Rockville Pike	Jun 2009	11	4	3	9	8	2	37
Four Corners	Jan 2010	4	4	7	5	0	1	21
Reedie Drive	Apr 2010	2	0	3	3	7	2	17
Randolph Road	Sep 2010	3	2	1	4	4	1	15
Connecticut Ave	May 2011	6	4	5	6	2	2	25
Total		46	37	42	44	43	18	

Year of PRSA Audit

Although there is a documented history of pedestrian safety crashes, the audits for these areas were conducted relatively recently.



Collisions in High Incidence Areas: Annual Trend



	2005	2006	2007	2008	2009	2010
HIA	46	37	42	44	43	18
Countywide	434	429	412	444	454	436
HIA as % of Total	11%	9%	10%	10%	9%	4%

Since the first PRSA in 2008, HIA collisions as a percent of total pedestrian collisions has decreased from 10% to 4%



High Incidence Areas: Piney Branch Road

Background

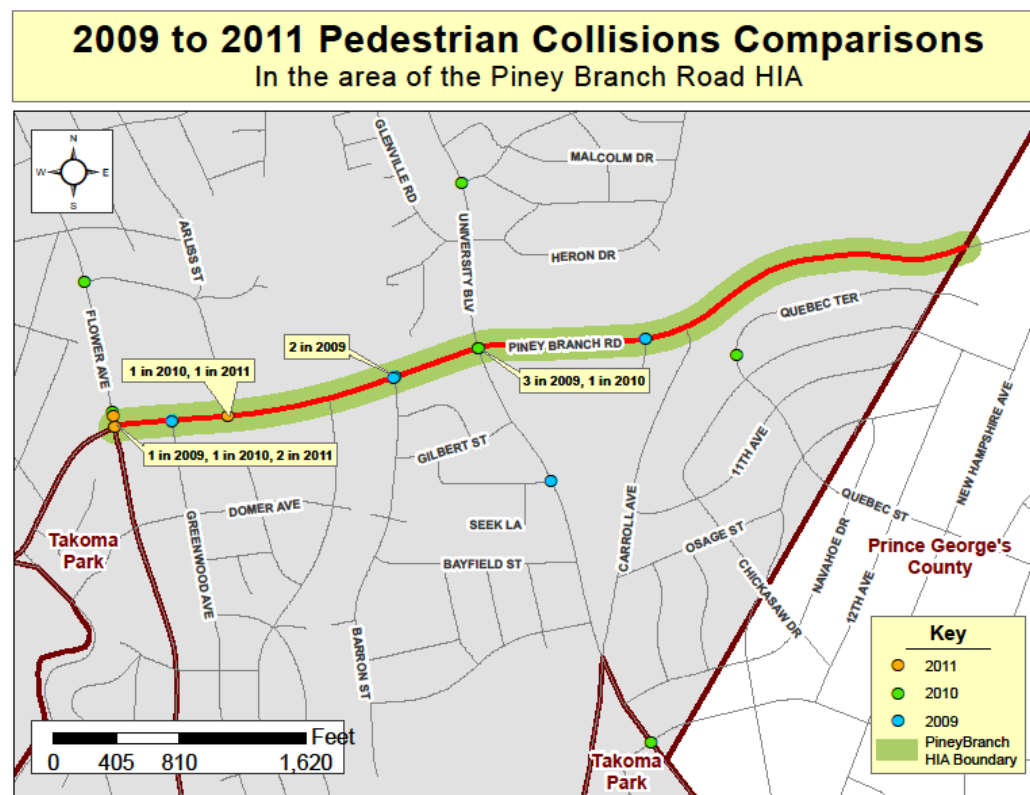
- 1st HIA: Piney Branch Road from Flower Avenue to the PGC/MC line
- PRSA conducted in Oct. 2008

Observations

- Many mid-block crossings
- Pedestrian at fault in most crashes
- Limited roadway lighting
- Narrow sidewalks

Updates

- Two sidewalk improvement projects completed
- Lighting upgrades (17 streetlights)
- Two pedestrian crossings with flashers (Under Design)
- MDSHA resurfacing project (Fall 2011)
- PRSA Report approved by MDSHA
- Education & Outreach – Phase II



2005	2006	2007	2008	2009	2010	Total
10	10	8	7	8	3	46



Piney Branch HIA: Project Highlights



Countdown Pedestrian Signal Upgrade at Carroll Ave (2011)



Sidewalk Improvement Projects:
Flower Ave. to Greenwood Ave. (2010)
Greenwood Ave. to Arliss St. (2011)



MDSA Piney Branch Road & University Blvd
Intersection Improvements
(2009)



Lighting Improvements:
University Boulevard to PGC Line
(2011)



Piney Branch Road HIB:
Pedestrian Refuge & Flashing Beacons
[UNDER DESIGN]
(Spring 2012)



Piney Branch Road Education &
Outreach Initiative
(2009-2011)

Following the education & outreach in 2009, the development of engineering improvements began, with several notable projects being completed in 2011.



High Incidence Areas: Wisconsin Avenue

Background

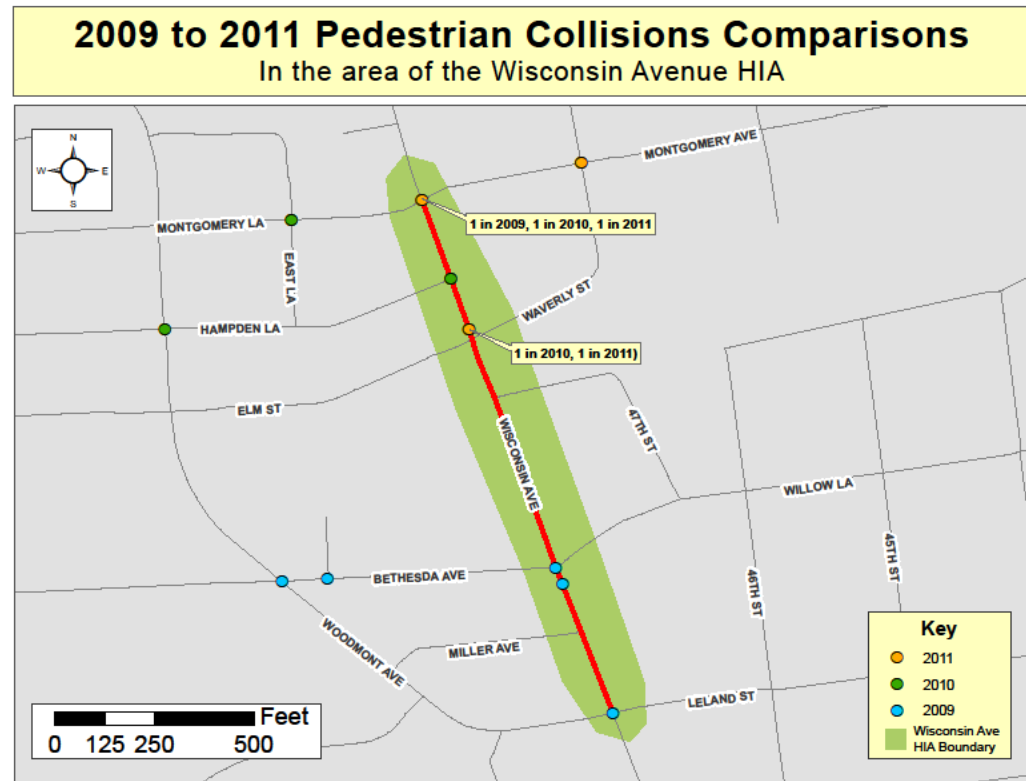
- Wisconsin Ave from Montgomery Ave to Leland Ave in Bethesda CBD
- PRSA conducted in Dec 2008

Observations

- Drivers at fault in most crashes
- Crashes mostly at intersections
- Most crashes involved turning vehicles
- High concentration at Montgomery Ave

Updates

- Countdown Pedestrian Signal Upgrades (5 intersections)
- Pursuing other traffic signal improvements with MDSHA
- MDSHA resurfacing project (Fall 2011)
- Education & Outreach Plan (In Development)
- PRSA Report approved by MDSHA



2005	2006	2007	2008	2009	2010	Total
6	6	10	3	4	3	32



Wisconsin HIA: Project Highlights



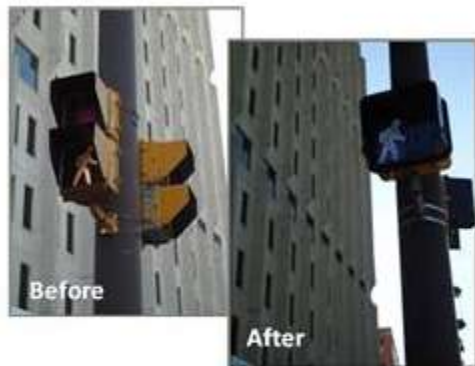
**Countdown Pedestrian Signal Upgrade:
East West Highway (2010)**



**Countdown Pedestrian Signal Upgrade:
Bethesda Avenue (2010)**



**Countdown Pedestrian Signal Upgrade:
Willow Lane (2010)**



**Countdown Pedestrian Signal Upgrade: Waverly Street/Elm Street
(2010)**



**MD 355 Resurfacing Project
(Start: Fall 2011)**

This was the first HIA-related project completed with State cooperation. MCDOT staff also participated on the Preliminary Field Investigation team for the MD 355 resurfacing project.



High Incidence Areas: Georgia Avenue

Background

- Georgia Avenue **from to Spring Street to Sligo Avenue** in Silver Spring CBD
- PRSA conducted in March 2009

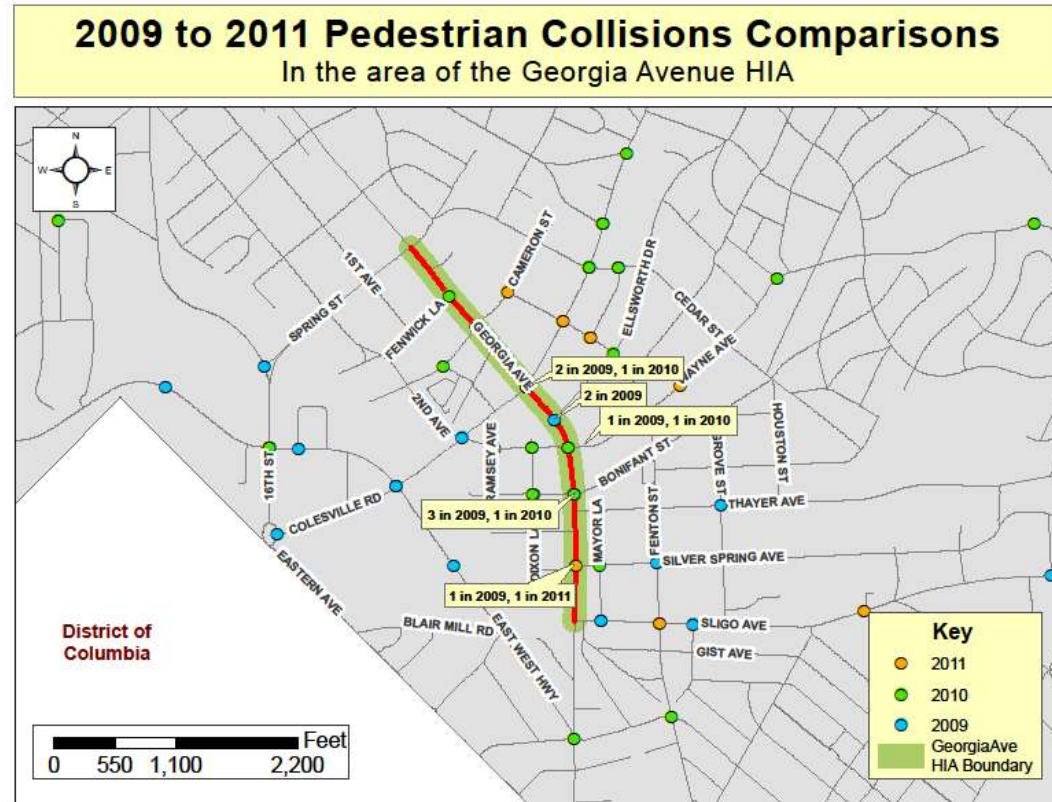
Observations

- Primary conflicts are between crossing pedestrians and turning vehicles
- Both drivers and pedestrians fail to obey traffic rules

Updates

- MDSHA-DHCA-MCDOT Coordination*
 - DHCA:** Fenton Village Pedestrian Linkages Project (Start: Fall 2011)
 - MDSHA:** US 29 Traffic Signal Improvement Project (Complete: Fall 2011)
 - MCDOT:** 21 Audit-Related Improvements

- PRSA Report approved by MDSHA



2005	2006	2007	2008	2009	2010	Total
4	7	5	7	10	4	37



Georgia Avenue HIA: Project Highlights

Fenton Village Pedestrian Linkages Project (DHCA)

Start: Fall 2011

(Includes Pedestrian Road Safety Audit Recommendations)



US 29 Resurfacing Project (MDSHA)
(Start: Fall 2011)



US 29 Traffic Signal Modernization
Project (MDSHA)
(Completed: Fall 2011)



High Incidence Areas: Rockville Pike

Background

- Rockville Pike from to Halpine Road to Hubbard Drive
- PRSA conducted in June 2009
- High incidents of collisions with seniors and bicyclists

Observations

- Narrow sidewalks
- Multiple access points
- Long distance between controlled crossings

Updates

- Sidewalk widening project completed (more than ½ mile)
- Driveway access improvements
- ADA accessibility improvements
- Minor lighting improvements
- PRSA Report approved by MDSHA

2009 to 2011 Pedestrian Collisions Comparisons In the area of the Rockville Pike HIA



2005	2006	2007	2008	2009	2010	Total
11	4	3	9	8	2	37



Rockville Pike HIA: Project Highlights



Countdown Pedestrian Signal Upgrade:
Federal Plaza & Bou Avenue (2011)



Rockville Pike Sidewalk Improvements (2011)



Rockville Pike Sidewalk Improvements:
ADA Accessibility (2011)



Rockville Pike Driveway Improvements:
Federal Plaza (2011)



High Incidence Areas: Four Corners

Background

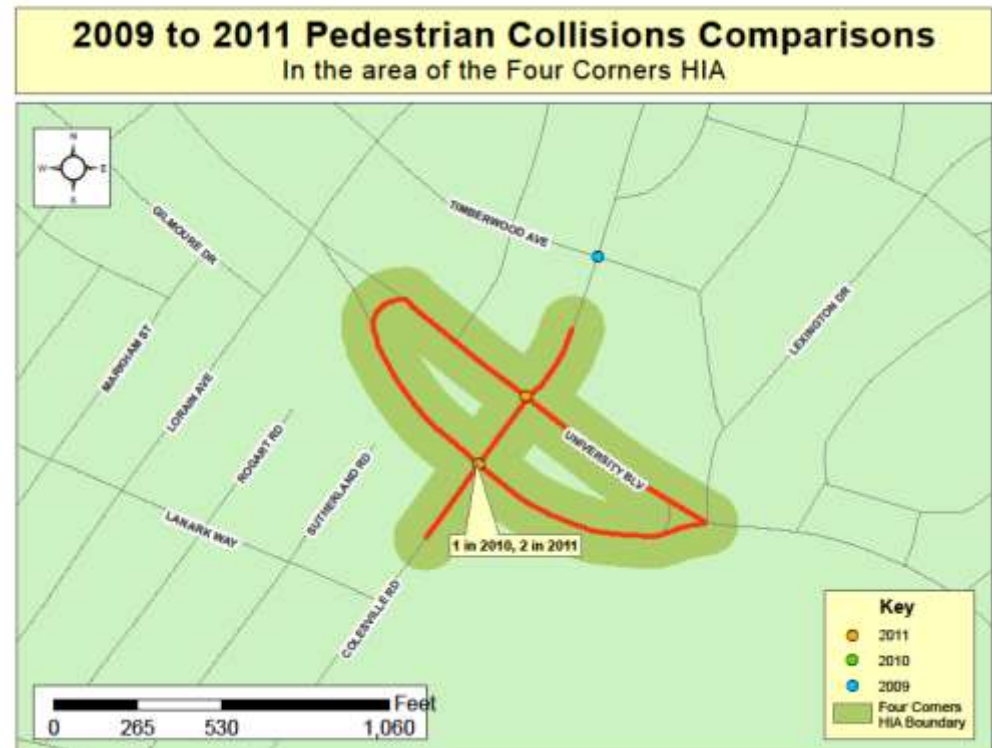
- Intersection of **Colesville Road and University Boulevard**
- PRSA conducted in Jan 2010
- Montgomery Blair HS

Observations

- Large student population
- Many pedestrians cross mid-block
- Numerous commercial access points
- Heavy bus transit usage

Updates

- Pedestrian signal upgrade – West Crossover
- MDSHA resurfacing project (Fall 2011)
- Working with Montgomery Blair HS to develop Education & Outreach Plan
- PRSA Report approved by MDSHA



2005	2006	2007	2008	2009	2010	Total
4	4	7	5	0	1	21



Four Corners HIA: Project Highlights

Pedestrian Signal Upgrade: West Crossover MDSHA Designed/MCDOT Constructed (2011)



**Upgrade to Countdown
Pedestrian Signals**



**Upgrade to Accessible/Audible
Push Buttons**



Upgrade Crosswalk Markings



**Education & Outreach Plan
Montgomery Blair High School (2011-2012)**



**Signage Improvements
(Under Review by MDSHA)**



**MD 193 Resurfacing Project
(Start: Summer 2011)**



High Incidence Areas: Reddie Drive

Background

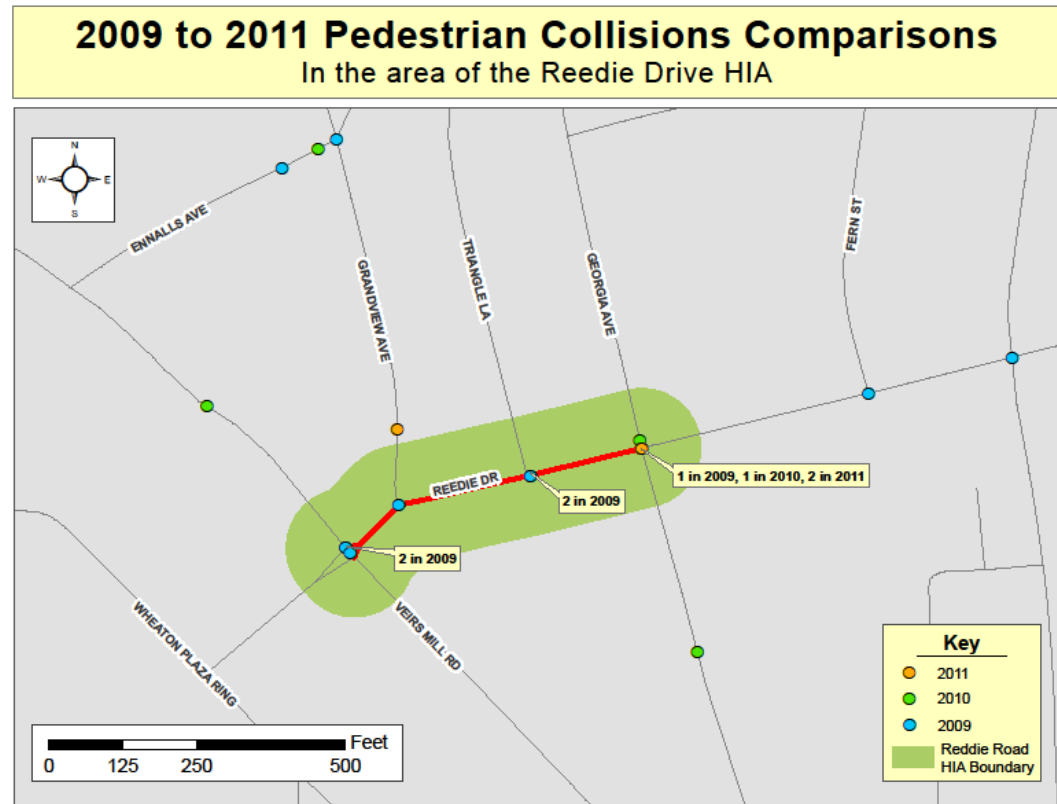
- Reddie Drive from Georgia Avenue to Veirs Mill Road in Wheaton CBD
- PRSA conducted in April 2010
- 1st County roadway PRSA

Observations

- Mid-block crossing encouraged by adjacent site layouts
- Numerous pedestrian/vehicle conflicts
- Many pedestrians cross at non-designated locations

Updates

- Planned Streetscape Project
- Minor spot improvements
- Coordinated with WMATA and PEPCO for lighting repair
- PRSA Report approved by MDSHA



2005	2006	2007	2008	2009	2010	Total
2	0	3	3	7	2	17



Reedie Drive: Project Highlights



Reedie Drive Streetscape Project (Construction: Fall 2011)



Grate Replacement [bicycle-related] (2010)



Lighting Repair: WMATA Coordination (2010)



Lighting Repair: PEPCO Coordination (2010)



High Incidence Areas: Randolph Road

Background

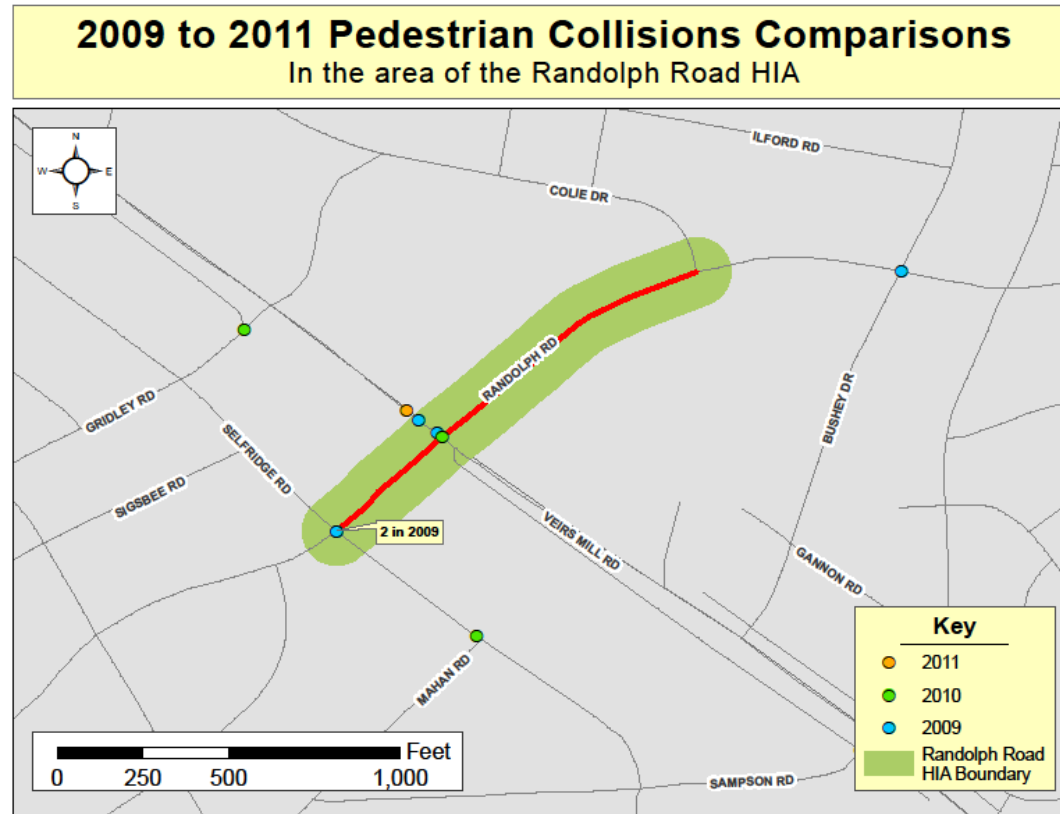
- Randolph Road from Colie Drive to Selfridge Road
- PRSA conducted in Sept 2010
- 2nd County roadway PRSA

Observations

- Heavy pedestrian/bicycle demand and heavy transit usage
- Numerous pedestrian/vehicle conflicts
- Both drivers and pedestrians fail to obey traffic rules

Updates

- Sidewalk improvement project completed
- Pedestrian buffer under construction in heavy crossing area
- Driveway access improvements completed
- Additional improvements planned for fall 2011



2005	2006	2007	2008	2009	2010	Total
3	2	1	4	4	1	15



Randolph Road: Project Highlights

Randolph Road Sidewalk Improvements (2011)



ADA Accessible Ramps



Sidewalk Widening



Pedestrian Buffer: Veirs Mill Rd to Selfridge Rd (2011)



Driveway Access Improvements (2011)



High Incidence Areas: Connecticut Ave

Background

- Connecticut Ave from Georgia Avenue to Independence Street
- PRSA conducted in May 2011
- Conducted in anticipation of MDSA resurfacing project

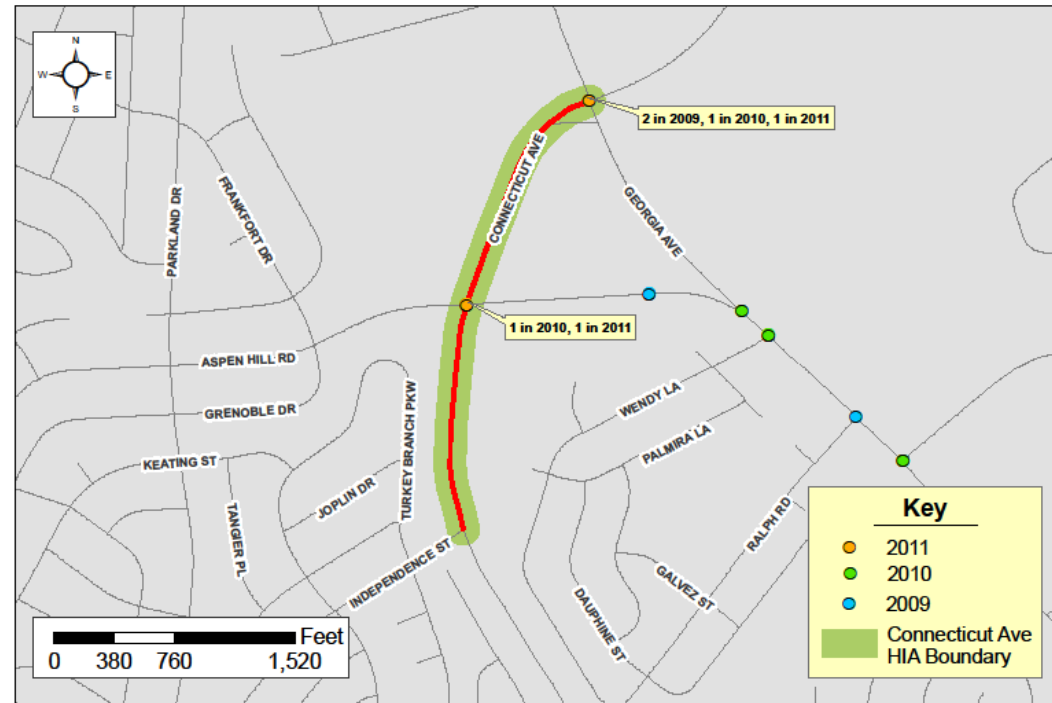
Observations

- Pedestrian/vehicle conflicts coupled with high speeds
- Jaywalking from commercial developments
- Long block distances
- Limited ADA accessibility



2009 to 2011 Pedestrian Collisions Comparisons

In the area of the Connecticut Avenue HIA



2005	2006	2007	2008	2009	2010	Total
6	4	5	6	2	2	25



High Incidence Areas: Expenditures & Obligated Funds

	FY11 Budget	FY11 Actual	FY12 Budget	Obligated Funds
Engineering & Construction	\$875,000	\$340,000	\$1,100,000	\$1,345,000
Education	\$100,000	\$85,000	\$100,000	
Enforcement	\$125,000	\$107,000	\$125,000	
Total	\$1,100,000	\$532,000	\$1,325,000	

** Pedestrian Safety CIP reduced \$425k in FY 11 and \$200k (current revenue) in FY 12*

Obligated funds represent projects originally classified as “long-term” for which preliminary engineering or design have begun. These projects typically involve detailed design, greater levels of coordination, and longer construction times.



High Incidence Areas Highlights and Recent Developments: Engineering

- Strategy: “In cooperation with the Maryland State Highway Administration”
- Interagency Cooperation with MDSHA
- Pursuit of joint projects on State roadways
- MCDOT participation in State audits
- MDSHA approval of audit reports for publication
- Preliminary Engineering and Design underway for mid-term and long-term projects
- Eleven (11) HIA-related projects (approx. \$340K) completed since last CountyStat Presentation (Oct. 2010)



Cooperative efforts between MCDOT and SHA has streamlined the process for implementing HIA engineering projects



High Incidence Areas Highlights and Recent Developments: Education

Education & Outreach Strategies

Pedestrian Surveys

- Piney Branch Road HIA (2009)
- Four Corners HIA (2011)
- Wisconsin Avenue HIA (2011)

Education Plan Development

- Montgomery Blair HS (Four Corners HIA)

Pedestrian Safety Promotion Teams / Police Distribution

- Piney Branch Road
- Rockville Pike

Bilingual Street Smart Campaign – transit shelter and bus advertising

Pedestrian Safety Spots - movie theaters prior to feature film screenings

Innovative Strategies – Curb Markings - pedestrian safety warnings (pending State approval)



High Incidence Areas Highlights and Recent Developments: Enforcement

Pedestrian Safety Enforcement Strategy – Two Phases

- Phase 1: “Contacts”
- Phase 2: Augment “Contacts” with Citations

Pedestrian Safety Enforcement Strategy – Four Elements

- Pedestrian Safety Initiative (Street Smart)
- Rotating Monthly Enforcement
- Random Enforcement
- SRTS Enforcement

Pedestrian Safety Initiative Enforcement Statistics (FY11)

Drivers	Oct-Dec	Jan-Mar	Apr-June	Total
Contacts	30	39	47	116
Citations	2	4	5	11
Total Intercepts	32	43	52	127
Pedestrians	Oct-Dec	Jan-Mar	Apr-June	Total
Contacts	476	926	1196	2598
Citations	2	6	3	11
Total Intercepts	478	932	1199	2609

While enforcement occurred in previous quarters, documentation of these efforts began in the 2nd quarter of FY11.

After an emphasis on “contacts” with drivers and pedestrians about appropriate behaviors, MCPD is entering the next phase which has a greater emphasis on citations (active enforcement) as part of a new Team-Based, Zero Tolerance strategy.



Safe Routes to Schools Prioritization

Started in 2005, over 50 schools have had comprehensive assessments conducted and improvements implemented



- **ENGINEERING: Reprioritized to weight pedestrian collisions**
 - Weighted scores with pedestrian collisions - used to prioritize schools
 - Factored into engineering evaluation criteria for overall score
 - Safe Routes to School (SRTS) list reprioritized using crash data weighting factor
 - SRTS Grant Applications now reflect reprioritization
- **EDUCATION: Increased at schools with high ped collisions**
 - SRTS Coordinator working with 109 Elementary Schools and 31 Middle Schools
 - SRTS Coordinator placing highest priority on schools with pedestrian collisions within 1/4 mile
- **ENFORCEMENT: Increase at schools with high ped collisions**
 - Enforcement actions targeted at schools with higher number of pedestrian collisions

Focused resources that improve pedestrian safety and mobility have resulted in the evaluation of over 100 specific safety concerns and reducing pedestrian collisions



Safe Routes to School: Collision Update

School Name	3 Years Before Treatment		After treatment	
	Time period	# of ped collisions	Time period (up to Jun 2011)	# of ped collisions
Stone Mill ES	3/2006 – 3/2009	2	2 yrs - 3 mos.	0
Olney ES	2/2006 – 2/2009	1	2 yrs - 4 mos.	4
Georgian Forest ES	3/2006 – 3/2009	6	2 yrs - 3 mos.	1
Kingsview MS	3/2006 – 3/2009	12	2 yrs - 3 mos.	1
Thurgood Marshall ES	3/2006 – 3/2009	1	2 yrs - 3 mos.	0
Flower Hill ES	6/2006 – 6/2009	7	2 yr - 0 mos.	0
Greenwood ES	4/2006 – 4/2009	2	2 yr - 2 mos.	1
Rosa Parks MS	4/2006 – 4/2009	2	2 yr - 2 mos.	0
Cannon Road ES	6/2006 – 6/2009	3	2 yr - 0 mos.	0
Clearspring ES	4/2006 – 4/2009	1	2 yr - 2 mos.	1
Total	360 Months	37	262 Months	8

Although the post treatment time period has not reached the full three years, initial data demonstrates the collision rate has declined from 1.23 to .37 incidents per year per location



Safe Routes to School: Engineering Output Metrics

School Zone Pedestrian Treatments Activities

	FY07	FY08	FY09	FY10	FY11	Total
Targeted Assessments	19	25	21	16	24	105
Comprehensive Assessments	9	10	13	11	23	66
Total Assessments	28	35	34	27	47	171
Improvements Implemented	28	35	34	19	30	146

School Zone Pedestrian Treatments

Budget and Expenditures

	FY09	FY10	FY11	FY12
Budgeted	\$80,000	\$330,000	\$156,240	\$154,710
Expended	\$80,000	\$159,000 *	\$125,361 *	TBD

** Reduced due to savings plan and spending freeze*



Safe Routes to School: Education and Enforcement

Output Metrics

Education & Enforcement Activities			
Activities	FY09	FY10	FY11
Outreach - Meetings held (School Administrator and Parent)	28	19	26
Schools Observed (Arrival and Dismissal)	34	7	24
Incentives Distributed	220	12,880	2,252
Citations Given	N/A	163	312

Education & Enforcement Budget and Expenditures						
Activities	FY09		FY10		FY11	
	Budget	Actual	Budget	Actual	Budget	Actual
Education	\$56,852	\$78,955	\$40,376	\$28,948	\$33,952	\$46,658
Enforcement	\$10,900	\$4,506	\$12,800	\$2,112	\$12,200	\$12,278



DOT and Police Reflections on Safe Routes to School Strategy

Education:

- Demonstrated success of reducing pedestrian collisions.
- Working relationship between SRTS Coordinator and school officials leads to effective outreach to students and parents at individual schools.
- More schools are providing increased opportunities for children to walk and bicycle to school. These activities range from the Walking Wednesdays and Bike Rodeos to participating in Walk to School Day.

Engineering:

- Crosswalk, sidewalk, and signage improvements are benefiting schools, crossing guards and the greater community
- Public school transportation representative, principal, and safety officer are all involved in assessments

Enforcement:

- Speeding and pedestrian-related violations are the officer's primary focus but school bus, red-light, stop sign and aggressive driving -related violations are also enforced if observed.
- All citations issued in the past year were for speeding violations in and around the SRTS area.



Traffic Calming: Collisions Update

Project Name	Completion Date	Speeds (MPH)			Collisions 3 Years Before Treatment	Time period Since Treatment	Collisions Since Treatment
		Posted	Avg. Before	Avg. After			
Connecticut Ave	July-07	40	48	40	10	3 yrs.	4
Aspen Hill Dr	May-08	30	35	34	14	3 yrs.	3
Arcola Ave	Aug-08	30	42	32	3	2 yrs. 10 mos.	3
Fairland Rd	July-09	40	53	42	2	1 yr. 11 mos.	0
Calverton Blvd	July-09	30	41	35	1	1 yr. 11 mos.	1
Lockwood Dr	July-09	30	40	30	0	1 yr. 11 mos.	1
Sligo Ave	Sept-09	30	34	31	1	1 yr. 9 mos.	3
Carroll Ave	Nov-09	25	33	27	2	1 yr. 7 mos.	1
Spartan Rd	Nov-09	30	40	33	0	1 yr. 7 mos.	0
Dale Dr	Aug-10	30	39	34	0	10 mos.	0
Prince Phillip Dr	Jun-11	30	36	31	0	1 mo.	0

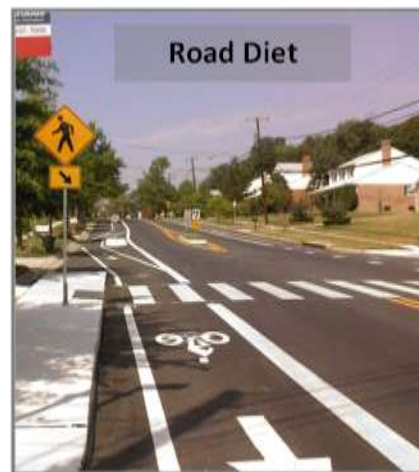
Speed decline ≥ 5 mph

Updated in 2011



Traffic Calming: Typical Treatments

- Pedestrian Refuge Islands
- Bump-Outs / Curb Extensions
- Chicanes / Chokers
- Enhance signing and marking
- Speed Humps
- Edgelines



Traffic Calming: Recently Completed Projects



Other Programmatic Highlights: Annual Sidewalk, ADA and Bus Stop Programs

–Project Description

- Construction of new sidewalks
- Reconstruction of existing sidewalks and ramps to meet ADA requirements
- Construction of Bus Stops.

–Total Annual Budget: \$4.85 Million

–Total FY11 Accomplishments

- **5.8 miles** of new sidewalk
- **2.3 miles** of upgrades to sidewalk and ramps to meet ADA specifications
- **2.5 miles** of new bus stop-related sidewalks
- Total = Approximately **10.6 miles** of new sidewalks
- **258** concrete bus stop pads (22,805 square feet)

Falls Chapel Way and Old Columbia Pike Sidewalk Improvements



Other Programmatic Highlights: Pedestrian Signal Timing



Pedestrian Signal Timing Developed/Implemented

	FY11	Total (FY09 – FY11)
Ped Timing Upgrades Funded	67	242
New Ped Timing Implemented	56	244
Total County Traffic Signals	750	
Percent Implemented	33%	

- Total Program Cost = \$1.125M
- FY09 - FY11 Allocation = \$362K
- Implemented by coordinated groups of traffic signals
 - All timing parameters for all times of day
 - Requires jurisdictional coordination

From 2009 through 2011, pedestrian signal timing changes were found to not be required at three (3) intersections.

This involves an update of pedestrian signal timing at the County's 750 traffic signals based on the new 3.5 ft/sec walking speed. New ped timings have been developed 20 of the 21 traffic signals within the HIA's (8 implemented).



Wrap-Up

- Follow-up items

